

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (original): A valve assembly for a gas purification system in which the gas purification system includes a plurality of vessels each having a first port opening and a second port opening, the valve assembly comprising:

    a motor adapted to rotate continuously;

    a converting mechanism that converts continuous movement of said motor into intermittent movement;

    a first valve element having a first aperture to selectively connect a first port opening of one of said plurality of vessels to an outlet of the first valve element, said first valve element further including a first passageway for selectively interconnecting first port openings of a pair of said plurality of vessels, wherein said first valve element is intermittently moved by said motor and said converting mechanism such that each intermittent movement changes the vessel connected to said first aperture and changes the pair of vessels connected by said first passageway; and

    a second valve element having a second aperture to selectively connect a second port opening of one of said plurality of vessels to an input of the second valve element, wherein said second valve element is intermittently moved by said motor and said converting mechanism such that each intermittent movement changes the vessel connected to said second aperture.

Claim 2 (original): The valve assembly of Claim 1, wherein said first aperture and said second aperture are concurrently connected to a first port opening and a second port opening, respectively, of a same one of said plurality of vessels.

Claim 3 (original): The valve assembly of Claim 1, further comprising:

    a flow control member arranged to control a fluid flow within said first passageway.

Claim 4 (original): The valve assembly of Claim 1, wherein said second valve element comprises:

a third aperture to selectively connect a second port opening of another one of said plurality of vessels to an output of the second valve element, wherein each intermittent movement of said motor and said converting mechanism changes the vessel connected to said third aperture.

Claim 5 (original): A valve element comprising:

a first disc including two holes;

a second disc positioned adjacent to said first disc, said second disc including,

two apertures arranged to align with said two holes, and

a first passageway arranged to allow fluid communication between said two apertures; and

a driving unit arranged to rotate said second disc relative to said first disc in an intermittent manner such that a positional relationship between said two holes and said two apertures is changed.

Claim 6 (original): The valve element of Claim 5, further comprising:

a flow control member arranged to control a fluid flow within said first passageway.

Claim 7 (original): The valve element of Claim 5, wherein said driving unit is arranged to rotate said second disc in an intermittent manner such that one of said two apertures is rotated from one of said two holes to another one of said two holes.

Claim 8 (currently amended): The valve element of Claim 5, wherein said ~~motor assembly~~ driving unit comprises:

a motor arranged to produce continuous rotational movement; and

a converting mechanism arranged to translate said continuous rotational movement into an intermittent rotation.

Claim 9 (currently amended): The valve element of Claim 5, wherein, said first disc includes five holes[[],] including said two holes, and said second disc includes five apertures including said two apertures, said five apertures including a first aperture, a second aperture, a third aperture, a fourth aperture, and a fifth aperture respectively arranged to align with said five holes.

Claim 10 (original): The valve element of Claim 9, wherein, said first and fifth apertures are connected by a second passageway, said second and fourth apertures are connected by a third passageway, and said two apertures correspond to said second aperture and said fifth aperture.

Claim 11 (currently amended): The valve element of Claim [[5]] 10, further comprising:

adjusting components arranged to vary a fluid flow rate within said second and third passageways.

Claim 12 (currently amended): The valve element of Claim 5, wherein, said first disc is positioned between said driving unit and said first valve element second disc,

said first disc includes a center hole, and said driving unit is rotatably connected to said second disc via a shaft positioned in said center hole.

Claim 13 (original): The valve element of Claim 5, further comprising: sealing components positioned between said first and second discs, said sealing components being arranged to maintain a fluid seal between said first and second discs during an intermittent rotation between said first and second discs.

Claim 14 (original): A fluid treatment system comprising: a plurality of vessels each having a first port opening and a second port opening;

a first valve element having a first aperture to selectively connect a first port opening of one of said plurality of vessels to an outlet of the first valve element;

a second valve element having a second aperture to selectively connect a second port opening of one of said plurality of vessels to an input of the second valve element;

a motor adapted to rotate continuously; and

a converting mechanism that converts continuous movement of said motor into intermittent movement, wherein said first and second valve elements are intermittently moved by said motor and said converting mechanism such that the intermittent movement changes the vessel connected to said second aperture and the vessel connected to said first aperture.

Claim 15 (original): The fluid treatment system of Claim 14, wherein, said first and second valve elements are connected by a rod, and said plurality of vessels are positioned on different sides of said rod and between said first and second valve elements.

Claim 16 (original): The fluid treatment system of Claim 14, wherein at least one of the plurality of vessels includes adsorbent material.

Claim 17 (original): The fluid treatment system of Claim 14, wherein each of said first and second valve elements is cylindrically shaped.

Claim 18 (original): A valve assembly for a gas purification system in which the gas purification system includes a plurality of vessels each having a first port opening and a second port opening, the valve assembly comprising:

a first valve element having first through fifth apertures arranged in a circular manner on a first surface of said first valve element, wherein,

said first aperture is arranged to selectively connect a first port opening of one of said plurality of vessels to an outlet of the first valve element, said outlet being positioned on a second surface of said first valve element,

    said fourth aperture is connected to said second aperture by a first passageway, and

    said fifth aperture is connected to said first aperture by a second passageway and to said second aperture by a third passageway; a second valve element having sixth through eighth apertures on a first surface of said second valve, wherein,

    said sixth aperture is arranged to selectively connect a second port opening of said one of said plurality of vessels to an input of the second valve element, said input being positioned on a second surface of said second valve element, and

    said seventh and eighth apertures are arranged to selectively and respectively connect second ports of two of said plurality of vessels to two outlets positioned on a third surface of said second valve element.

Claim 19 (original): The valve assembly of Claim 18, wherein said first and second valve elements are rotatable relative to said plurality of vessels.

Claim 20 (original): The valve assembly of Claim 18, wherein said first and second valve elements are connected by a rod, and said plurality of vessels is arranged on different sides said rod.

Claim 21 (original): The valve assembly of Claim 18, further comprising: a flow control member adapted to control a fluid flow within said third passageway.

Claim 22 (currently amended): A method of handling a fluid in a gas purification system including a plurality of vessels selectively connected to apertures of a first valve element, comprising the steps of:

- (i) positioning said first valve element in a first position to remove a product fluid from a first port opening of a first one of said plurality of vessels;
- (ii) moving said first valve element by intermittent rotation to a second position to depressurize said first vessel in a first direction;
- (iii) moving said first valve element by intermittent rotation to a third position to depressurize said first vessel in a second direction, said second direction being directly opposite to said first direction;
- (iv) moving said first valve element by intermittent rotation to a fourth position to purge impurities from said first vessel; and
- [(iv)] (v) moving said first valve element by intermittent rotation to a fifth position to repressurize said first vessel.

Claim 23 (original): The method of Claim 22, said step (i) comprising the step of: removing impurities from a feed fluid to create said product fluid.

Claim 24 (original): The method of Claim 22, further comprising the step of: converting a continuous movement of a motor to an intermittent rotation for moving said first valve element to each of said second, third, fourth, and fifth positions.

Claim 25 (original): The method of Claim 22, said step (iv) comprising the step of: purging said impurities from said first vessel with a product fluid transferred from a second one of said plurality of vessels via a first passageway of said first valve element, said first valve element being positioned at said second position with respect to said second vessel.

Claim 26 (original): The method of Claim 25, said step (v) comprising the step of: repressurizing said first vessel with product fluids transferred from third and fourth ones of said plurality of vessels respectively via second and third passageways of said first

valve element, said first valve element being positioned at said first position with respect to said third vessel and at said second position with respect to said fourth vessel.

Claim 27 (original): The method of Claim 26, said step (v) comprising the step of: controlling a flow of said product fluid within said third passageway with a check valve.

Claim 28 (original): The method of Claim 22, wherein step (i) comprises the step of: positioning a second valve element at said first position to provide said feed fluid to a second port opening of said first vessel.

Claim 29 (original): The method of Claim 28, wherein step (iii) comprises the step of:

positioning said second valve element at said third position to remove an initial tail fluid from said second port opening of said first vessel.

Claim 30 (original): The method of Claim 29, wherein step (iv) comprises the step of: positioning said second valve element at said fourth position to remove a purged tail fluid from said second port opening of said first vessel.